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Contents

Abstract

The paper analyzes the stylized features of historical crisis episodes for 21 developing Asian economies over 1961–2007. The paper finds that while there is substantial diversity, on average, recessions and financial downturns are more frequent, longer lasting, and more severe in Asia than in the Organisation for Economic Co-operation and Development countries. The paper also finds that the likelihood and severity of a recession tends to increase when it is associated with credit crunches or stock market crashes. Severe financial downturns or recessions in the global economy are often coupled with financial crises or recessions in Asia. In view of the current global crisis and severe financial downturns, Asian economies are expected to experience a severe recession in 2009.

I. Introduction

The global financial crisis that originated in the United States (US) subprime mortgage market is now pummeling the real economy. As household and corporate sectors cut spending on tightened credit and reduced wealth, global recession has become almost inevitable. Output in all major industrial countries is expected to fall in 2009. The recession will likely be deeper and more prolonged than originally expected, as it will take time for the global financial system to stabilize and government expansionary policies to take effect.

The global crisis has spread to Asia, affecting real economies and financial markets throughout the region. The global financial turmoil and economic slowdown have reversed capital flows and stunted export demand. Asia's output growth is decelerating given its close ties to the global economy through both trade and financial links. A more protracted recession and high volatility in G3[1] financial markets would have severe spillover effects on Asia's economic outlook.

The purpose of this paper is to empirically examine historical crisis episodes of Asian economies to derive implications of the current global crisis for Asia. We first investigate basic features of crisis episodes for 21 developing Asian economies during 1961–2007, providing stylized facts on movements of key macroeconomic and financial variables around crisis episodes. We then consider how Asia's crisis episodes link to global crises to derive implications of the current global crisis on Asia.

There have been several studies assessing how the current global crisis will compare with other past crises. Claessens, Kose, and Terrones (2008) provide extensive cross-country empirical analysis of past recessions that coincide with credit crunches, house price busts, and equity price busts. Lall, Cardarelli, and Elekdag (2008) also provide a similar analysis, but focus on financial stress in banking, securities, and foreign exchange markets on economic activity. Reinhart and Rogoff (2008) focus on 18 bank-centered financial crises in industrialized countries since World War II. Barro and Ursua (2008) also look at long-term historical data to analyze major economic crises. To date, we know of no systematic empirical research focusing on the stylized facts of economic and financial crises in developing Asian economies, and the links of these crises with global financial crises and recessions. This paper fills in this gap.

[1] G3 includes European Union, Japan, and US.

The paper is organized as follows: Section II describes the data and methodology in identifying crises; Section III provides various stylized facts on macroeconomic and financial crises in Asia; Section IV examines impacts of the US/global crises on Asia, and Section V concludes the paper.

II. Data and Methodology

A. Data

In our analysis, we mainly investigate 21 developing Asian economies: the 10 Association of South East Asian Nations;[2] Bangladesh; People's Republic of China (PRC); Hong Kong, China; India; Kazakhstan; Republic of Korea (Korea); Kyrgyz Republic; Pakistan; Papua New Guinea; Sri Lanka; and Uzbekistan. We exclude the Middle East and countries with low data availability. The sample period is from 1961 through 2007 at its longest and substantially shorter in many cases. For example, gross domestic product (GDP) growth rates for Cambodia are available for 19 years; 17 years for Kazakhstan; and 20 years for Uzbekistan. We use unbalanced panel data to include as many observations as possible.

To examine the impact of global shocks on Asian economies, we define the global economy as represented by 21 industrial, mostly Organisation for Economic Co-operation and Development (OECD) countries, including Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and US. This is the reference set for our comparative analysis with Asian economies.

Among key variables, GDP and other variables from national income accounts are considered at the annual frequency because, for most Asian economies in our sample, national income accounts data are available quarterly for only short periods of time. For prices and financial variables such as the consumer price index (CPI), domestic credit, and stock prices, we use quarterly series. When we need to combine the two sets of data, we annualize quarterly data. National income accounts data are mostly from the World Bank's *World Development Indicators* and most of our financial variables are from the International Monetary Fund's *International Financial Statistics*.

[2] Includes Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

B. Definition of Recession

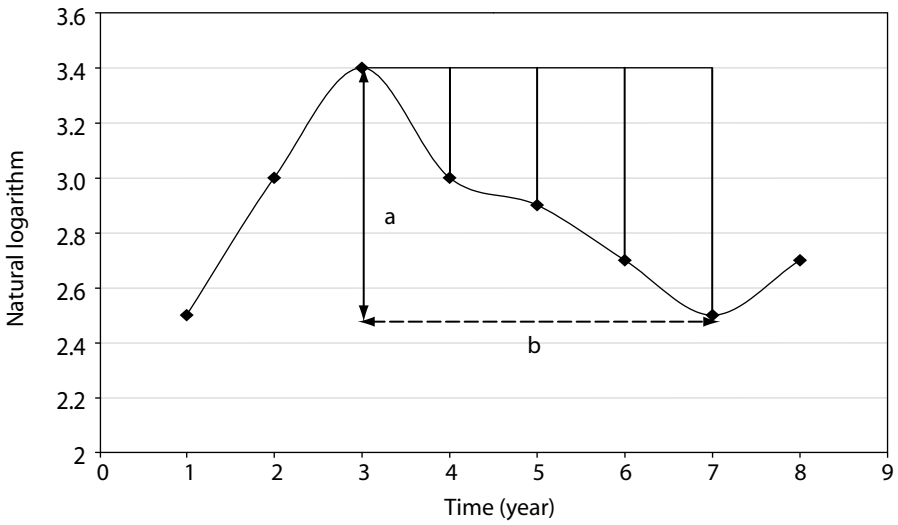
We define recessions based on "classical" business cycles, which dates turning points (peaks and troughs) in the level of economic activity to separate periods of relative prosperity and relative decline. The concept of "classical" business cycles was formalized by Burns and Mitchell (1946) and later implemented in algorithm by Bry and Boschan (1971) for monthly series and by Harding and Pagan (2002) for quarterly series. As our data are either annual or quarterly, we first need to consider the Harding and Pagan algorithm where for a quarterly series x, period t is defined as a trough if $x_t < x_{t+k}$, for k = -1, -2, 1, 2; and a peak if $x_t > x_{t+k}$, for k = -1, -2, 1, 2. A recession is naturally defined as the period immediately after a peak to the following trough. A censoring rule is also required to ensure that each cycle and each of its phases has a minimum duration. Harding and Pagan recommend setting the minimum duration for a single phase at two quarters and the minimum duration for a complete cycle at five quarters.

However, as mentioned above, we use annual, not quarterly, series for GDP and other national income account variables and thus modify Harding and Pagan's definition accordingly. When applied to annual series, their rule will imply that, for an annual series x, period t should be defined as a trough if $x_t < x_{t+k}$, for k = -1 and 1, and a peak if $x_t > x_{t+k}$, for k = -1 and 1. In other words, any period (year) of negative growth can be regarded as a recession. We apply this rule to our annual real GDP series to date recession periods. Watson (1994) uses the same reasoning in his analysis of annual data. It is clear that we do not need a separate censoring rule for annual series, because a complete cycle (from peak to peak) will always take at least 2 years, which is greater than five quarters.

We also follow Harding and Pagan in defining duration, amplitude, and cumulative loss of a recession. The duration is simply the length (number of years) of a recession, while the amplitude measures the peak-to-trough fall in the logarithmic value of the series. The cumulative loss is the sum of all losses from the peak value during the recession. Amplitude and cumulative loss both measure the severity of a recession. Figure 1 provides an example. If the series in the figure represents the logarithm of GDP, the duration is given by 4 years (b), the amplitude 0.9 (a), and the cumulative loss 2.5 (=0.4+0.5+0.7+0.9).

We follow Claessens et al. (2008) and define severe recessions as those with the amplitude belonging to the top quartile of the distribution.

Figure 1: Definition of Recession, Duration, Amplitude, and Cumulative Loss



C. Definitions of Financial Downturns

Downturns in the financial market, i.e., credit contractions and equity price declines, are defined the same way: we examine domestic credit and stock price levels to determine peaks and troughs in each series. Similar to recessions, credit contractions and stock price declines are defined as time periods between a peak and the following trough. We deflate both domestic credit and stock prices by the CPI before dating peaks and troughs. As both financial variables are available quarterly, we can directly use the Gauss algorithm provided by Harding and Pagan. Once peaks and troughs are dated, the duration, amplitude, and cumulative loss can be defined the same way as before. Also, we pick those severe downturns with the amplitude belonging to the top quartile of the distribution for each credit contraction and stock price decline, considering them as credit crunches and stock price busts, respectively.

When changing the frequency of our indicator series from quarterly to annual, we classify a whole year with any one or more quarters of contraction as a contractionary year. The duration, amplitude, and cumulative loss can be annualized in the same manner. We assign quarterly measures of the duration, amplitude, and cumulative loss to whichever year the quarter belongs. For example, if there is a trough in the second quarter of 1990, the duration, amplitude, and cumulative loss of that period are considered as the corresponding measures for all of 1990.

III. Stylized Facts of Economic Crises in Asia

A. Descriptive Statistics on Recessions

Using the above dating methodology, we identify recessions, credit contractions, and stock price declines. Table 1 offers some descriptive statistics on recession episodes for each Asian economy in our sample. Claessens et al. (2008) provide an almost identical table for OECD countries. The first column shows the proportion of time in recession that is defined as the number of recessionary years divided by the total number of years for which GDP data are available. The second column shows the average length (measured in number of years) of a recession episode. The third and the fourth columns indicate the severity of recessions. As shown in the table, Asian countries on average were in recession about 13% of the time, and each recession lasted about 1.6 years. The accumulated decrease in GDP during a recession (cumulative loss) was about 12%.

Table 1: Descriptive Statistics on Recessions

Country	All Recessions			Severe Recessions			
	Proportion of Time in Recession (%)	Duration (years)	Amplitude (%)	Cumulative Loss (%)	Duration (years)	Amplitude (%)	Cumulative Loss (%)
Bangladesh	10.64	1.25	6.47	7.84	2.0	19.45	24.93
Brunei Darussalam	23.33	1.4	7.44	9.14	2.0	26.82	33.82
Cambodia	–	–	–	–	–	–	–
China, People's Rep. of	10.64	1.5	5.7	8.55	2.0	9.8	15.5
Hong Kong, China	2.13	1.0	6.03	6.03	–	–	–
India	8.51	1.33	2.74	3.55	–	–	–
Indonesia	4.26	1.0	7.69	7.69	1.0	13.13	13.13
Kazakhstan	35.29	1.0	1.9	1.9	–	–	–
Korea, Rep. of	4.26	1.0	4.17	4.17	1.0	6.85	6.85
Kyrgyz Republic	33.33	2.33	20.97	62.33	5.0	62.71	186.78
Lao PDR	7.41	2.0	3.64	5.15	–	–	–
Malaysia	4.26	1.0	4.24	4.24	1.0	7.36	7.36
Myanmar	17.78	1.6	6.94	9.14	2.5	13.6	19.08
Pakistan	–	–	–	–	–	–	–
Papua New Guinea	27.66	1.86	3.63	5.57	2.0	7.67	11.58
Philippines	8.51	1.33	5.26	7.7	2.0	14.63	21.95
Singapore	8.51	1.0	1.31	1.31	–	–	–
Sri Lanka	4.26	1.0	0.98	0.98	–	–	–
Thailand	4.26	2.0	11.88	13.25	2.0	11.88	13.25
Uzbekistan	25.0	5.0	20.09	65.46	5.0	20.09	65.46
Viet Nam	–	–	–	–	–	–	–
Average	13.33	1.59	6.73	12.44	2.29	17.83	34.97
United States	10.64	1.25	0.76	0.88	–	–	–
G7	7.29	1.13	1.28	1.46	1.50	3.01	4.04
OECD	8.52	1.32	1.73	2.58	2.07	4.83	8.77

– refers to nonavailability of data or such event.

Note: Severe recessions refer to recession episodes (including all economies) with the amplitude belonging to the top quartile of the distribution. The cutoff value of the amplitude in classifying severe recessions is 6.85.

Also reported in the table are characteristics of severe recessions. According to the table, a severe recession lasts for about 2.3 years on average and is associated with cumulative GDP loss of about 35%. This result is roughly consistent with Barro and Ursua (2008) for GDP disasters based on much longer historical data. As Table 6 in Section IV shows, the average duration of a GDP disaster is 2.9 years and the cumulative loss is about 25%.[3]

The same statistics are computed for OECD economies in order to provide a reference point for comparison. We do not simply cite the results from Claessens et al. (2008) because their results are derived from quarterly data and thus are not directly comparable to our results. When using annual data, some of the GDP fluctuations at the quarterly frequency are likely to be undetected or smoothed out. Indeed, a comparison between our statistics for OECD countries in Table 1 with the statistics by Claessens et al. (2008) confirms that our recessions are less frequent and less severe than recessions defined from quarterly data. The proportion of time in recession and the amplitude of a recession for OECD countries reported in Claessens et al. (2008) are 11% and 2.63%, respectively.

In our view, the most important pattern in Table 1 is the systematic difference between Asian economies and OECD countries in the duration and severity of recessions. While there is substantial diversity in Asia, the table shows that on average recessions are more often longer lasting and more severe in Asian economies than in OECD countries. Clearly, Central Asian countries such as Kazakhstan, Kyrgyz Republic, and Uzbekistan exhibit extraordinary recession characteristics. The difference between Asia and OECD, however, is not solely driven by these countries. Even when these Central Asian economies are excluded from the sample, recessions still appear to be more severe in Asia: the duration is 1.35 years, the amplitude 5.21%, and the cumulative loss 6.29%. This suggests that Asian economies were more vulnerable to negative shocks. This pattern is consistent with previous findings on business cycles of developing economies. Mendoza (1995), Agenor, McDermott, and Prasad (1999), Neumeyer and Perry (2005), Aguiar and Gopinath (2007) commonly find that GDP volatility is greater in developing economies than in developed ones. One difference is that these studies consider not only recessions but also expansions. Our paper considers only recessions as we are concentrating on crisis episodes.

[3] With wartime periods excluded from the Barro and Ursua (2008) sample, the duration is 2.35 years and the cumulative loss is 19.36%. When Central Asian countries (Kazakhstan, Kyrgyz Republic, and Uzbekistan) are excluded from our sample, the duration of severe recessions becomes 1.75 years and the cumulative loss 16.75%.

B. Descriptive Statistics on Credit Contractions and Stock Price Busts

We compute the same statistics for credit contractions and equity price declines for each economy, and report the results in Table 2. As credit contractions and equity price declines are identified from quarterly data, the duration here refers to the number of quarters between a peak and the following trough. As can be expected from the volatile nature of the financial variables, both credit and equity-price cycles exhibit a greater probability of a downturn than the GDP cycle, although the duration, when translated to the annual frequency, is similar to that of GDP recessions. Also, the peak-to-trough amplitude and the cumulative loss are much greater than those from GDP series.

Table 2: Descriptive Statistics on Financial Downturns

Country	All Credit Contractions				Credit Crunches		
	Proportion of Time in Credit Contraction (%)	Duration (quarter)	Amplitude (%)	Cumulative Loss (%)	Duration (quarter)	Amplitude (%)	Cumulative Loss (%)
Bangladesh	17.05	5.0	5.66	17.36	–	–	–
Brunei Darussalam	62.07	9.0	72.46	340.93	9.0	72.46	340.93
Cambodia	19.64	5.5	18.07	51.68	7.0	22.05	67.94
China, People's Rep. of	15.56	4.0	8.04	26.86	–	–	–
Hong Kong	40.00	5.33	11.38	40.29	7.0	26.10	100.34
India	16.15	3.5	7.61	17.37	–	–	–
Indonesia	21.29	4.13	36.79	82.20	3.67	77.14	154.82
Kazakhstan	–	–	–	–	–	–	–
Korea, Rep. of	7.14	2.4	2.34	4.56			
Kyrgyz Republic	30.00	4.33	32.14	94.64	4.33	32.14	94.64
Lao PDR	46.15	4.50	29.50	71.67	5.67	43.48	114.10
Malaysia	16.67	3.00	5.38	12.77			
Myanmar	35.66	4.44	20.52	68.70	6.0	36.61	131.05
Pakistan	20.83	4.44	10.91	29.84	7.0	55.23	171.79
Papua New Guinea	43.80	9.33	27.79	230.52	12.75	38.18	339.98
Philippines	32.81	5.17	18.78	114.97	11.5	66.94	547.99
Singapore	22.62	3.45	11.78	29.42	2.0	35.51	52.95
Sri Lanka	22.40	3.58	11.52	26.68	4.0	31.20	52.56
Thailand	18.75	8.33	18.19	138.61	18.0	32.37	374.99
Uzbekistan	–	–	–	–	–	–	–
Viet Nam	7.69	2.0	2.01	3.5	–	–	–
Average	26.12	4.81	18.47	73.82	7.53	43.80	195.70
United States	21.35	6.83	4.02	22.49	–	–	–
G7	17.29	4.50	5.50	21.84	7.83	20.07	88.83
OECD	17.42	4.36	7.31	27.64	7.01	19.27	79.07

continued.

Table 2: *continued.*

Country	All Stock Price Declines				Stock Price Busts		
	Proportion of Time in Stock Price Decline (%)	Duration (quarter)	Amplitude (%)	Cumulative Loss (%)	Duration (quarter)	Amplitude (%)	Cumulative Loss (%)
Bangladesh	51.25	6.0	66.67	542.44	13.0	191.73	1987.53
Brunei Darussalam	–	–	–	–	–	–	–
Cambodia	–	–	–	–	–	–	–
China, People's Rep. of	42.25	5.4	53.82	208.76	8.0	125.94	468.25
Hong Kong	32.14	4.33	43.38	126.65	4.0	70.16	190.97
India	47.40	7.0	37.60	214.51	17.0	74.56	784.91
Indonesia	40.00	5.0	61.07	227.11	7.0	128.15	461.08
Kazakhstan	–	–	–	–	–	–	–
Korea, Rep. of	54.17	7.22	51.79	283.09	13.0	106.72	648.31
Kyrgyz Republic	–	–	–	–	–	–	–
Lao PDR	–	–	–	–	–	–	–
Malaysia	38.39	4.78	48.14	149.38	7.33	92.22	330.12
Myanmar	–						
Pakistan	49.47	7.0	39.39	230.57	19.0	153.24	1542.45
Papua New Guinea	35.71	2.33	12.89	26.03	–	–	–
Philippines	58.33	10.2	98.80	740.86	12.83	133.24	1088.41
Singapore	55.43	9.2	39.68	213.87	10.0	82.65	279.09
Sri Lanka	62.79	13.2	78.07	824.85	22.0	143.40	1610.69
Thailand	43.18	3.5	23.28	56.27	–	–	–
Uzbekistan	–	–	–	–	–	–	–
Viet Nam	57.14	4.0	13.76	38.49	–	–	–
Average	47.69	6.37	47.74	277.35	12.11	118.36	853.8
United States	38.54	5.21	24.22	84.27	8.0	65.20	215.17
G7	42.85	5.88	33.55	159.79	9.96	84.79	412.63
OECD	43.02	6.64	38.47	207.66	11.89	89.49	613.44

– refers to nonavailability of data or such event.

Note: Credit crunches refer to credit contractions (including all economies) with the amplitude belonging to the top quartile of the distribution. Similarly, stock price busts refer to stock price declines with the amplitude belonging to the top quartile of the distribution. The cutoff values of the amplitude in classifying credit crunches and stock price busts are 21.09 and 67.98, respectively.

We examine severe financial downturns separately, though the same way we did for recessions in Table 1. Credit contractions and stock price declines with the amplitude belonging in the top quartile of the corresponding distributions are regarded as credit crunches and stock price busts, respectively. According to the last three columns in Table 2, credit crunches and stock price busts involve not only greater losses but also longer durations.

Similar to Table 1, Table 2 shows that there exist systematic differences between Asian developing countries and OECD countries. Downturns in the financial market are more frequent, longer-lasting, and more severe among Asian countries. This suggests that not only the output market but also the financial market are more volatile in Asian economies than in OECD countries.

C. Synchronization of Recessions, Credit Contractions, and Stock Price Busts

Regional/global economic integration can make macroeconomic and financial fluctuations coincide across economies. One simple approach to considering synchronization of events is to examine their bunching in time. In Figure 2, we plot the proportion of economies in recession, credit contraction, and stock price declines during 1960–2007, separately for developing Asia and OECD. A clear pattern that emerges from Figure 2 is that recessions are less synchronized among Asian countries. For OECD, the proportion of countries in recession exceeds 50% in a couple of incidents and equals zero in many years. The high synchronization of recessions among OECD countries has been reported in Claessens et al. (2008) as well. For Asia, on the other hand, the proportion exhibits relatively small time-series variation, except during the 1997/1998 Asian financial crisis. Our results suggest that Asian countries are not as homogenous or interrelated as OECD countries. A similar difference is observed between the two regions for stock price declines. For OECD, the proportion of countries in stock price declines reaches as high as 100% on a few occasions and below 20% on several others. For Asia, the proportion reaches 100% only once during the Asian financial crisis since 1980 and never below 20% during the sample period. The high values of the series for earlier years are not reliable because the stock price data for that period are available only for a few economies. It is not clear whether the two regions can be similarly distinguished in terms of synchronization of credit contractions. The time series variation in the proportion of countries in credit contractions (measured by standard deviation) is greater for Asia, partly due to the positive time trend apparent in the series since the 1990s.

Oftentimes a recession is accompanied or preceded by a financial downturn. For example, the Asian crisis in 1997 was triggered by turmoil in the foreign exchange market. The current US economic downturn was initiated by the subprime mortgage crisis. The synchronization of real downturns and financial downturns is clearly observed in our data set as well. In particular, we find that credit contractions and stock price declines tend to concur with recessions while stock price declines tend to precede credit contractions. As shown in Table 3, the correlation coefficient between recessions and credit contractions in Asia is 0.19 and the correlation between recessions and stock price declines is 0.18. Credit contractions and one-year-lagged stock price declines are also positively correlated, with the correlation coefficient reaching 0.13. These correlations are all significant at the 5% level. In OECD countries, credit contractions tend to concur with GDP recessions while stock prices tend to precede GDP recessions. According to the lower panel of Table 3, the correlation between recessions and credit contractions in OECD is 0.24 and the correlation between recessions and one-year-lagged stock price declines is 0.17. This suggests that stock prices are more forward looking in OECD countries. Stock price declines and credit contractions are weakly correlated with each other, either contemporaneously or with a lag.

Figure 2: Proportion of Economies in Recession, Credit Contraction, and Stock Price Decline (percent)

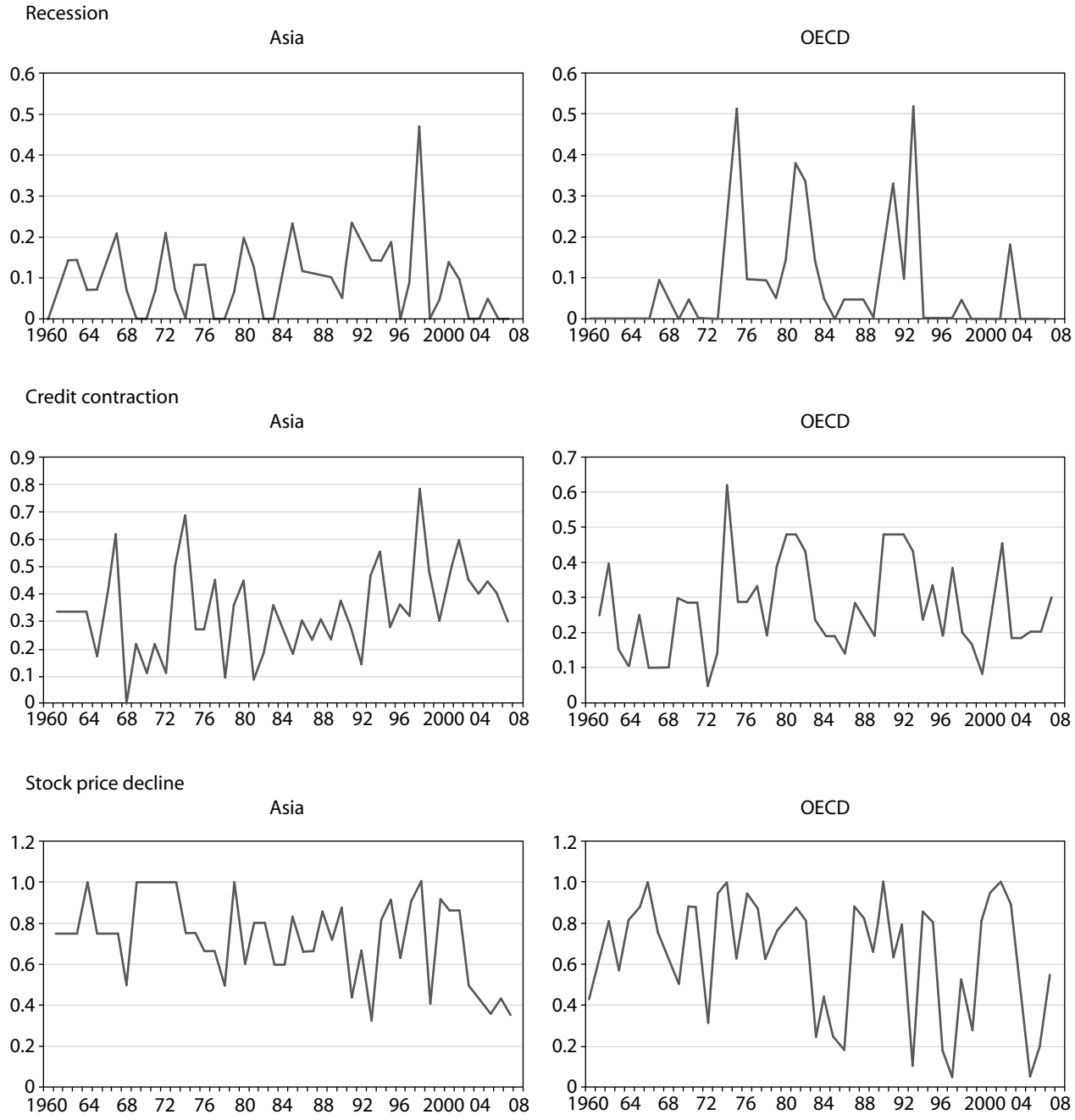


Table 3: Correlations between Recessions, Credit Contractions, and Stock Price Declines

A: Asia	Recession	Credit Contraction	Stock Price Decline
Credit Contraction	0.19**		
Stock Price Decline	0.18**	0.02	
Recessiont-1	0.30**	0.21**	–0.06
Credit Contraction t-1	0.04	0.29**	–0.21**
Stock Price Decline t-1	0.13**	0.12**	0.17**
B: OECD	**Recession**	**Credit Contraction**	**Stock Price Decline**
Credit Contraction	0.24**		
Stock Price Decline	0.04	0.06*	
Recessiont-1	0.17**	0.14**	0.02
Credit Contraction t-1	0.19**	0.38**	–0.05
Stock Price Decline t-1	0.17**	0.07*	0.22**

* and ** refer to 10% and 5% significance level, respectively.
Note: Central Asian countries are included.

D. Recessions Associated with Financial Crises

When an economy is hit by combined recession and financial downturn, one may expect that the impact will intensify. This expectation is largely supported by Table 4, which compares recessions that are in association with financial crises and those that are not. Following Claessens et al. (2008, 13), "if a recession episode starts at the same time or after the beginning of an ongoing credit crunch or asset price bust", we consider the recession to be associated with a financial crisis. Since sample means of the recession characteristics are sensitive to outlier observations, Central Asian countries are excluded in Table 4. The last two columns of Table 4 indicate that the peak-to-trough drop in GDP and the associated cumulative loss in GDP tend to be greater when the recession is accompanied by a credit crunch or a stock price bust.[4] Similar patterns are observed for OECD countries.

Table 4: Descriptive Statistics on Combined Recession and Financial Crises

A: Asia	Proportion of Time Spent (%)	Duration (years)	Amplitude (%)	Cumulative Loss (%)
Recession + Credit Crunch	9.32	1.31	7.36	8.65
Recession + No Credit Crunch	7.26	1.37	4.42	5.28
Recession + Stock Price Bust	6.24	1.19	5.00	5.76
Recession + No Stock Price Bust	12.37	1.60	4.01	5.31
B: OECD	**Proportion of Time Spent (%)**	**Duration (years)**	**Amplitude (%)**	**Cumulative Loss (%)**
Recession + Credit Crunch	3.65	1.63	3.22	4.79
Recession + No Credit Crunch	8.08	1.26	1.65	2.44
Recession + Stock Price Bust	4.92	1.33	1.48	2.31
Recession + No Stock Price Bust	4.92	1.13	1.28	1.62

Note: Central Asian countries are excluded because sample means are sensitive to outlier observations.

[4] When Central Asian countries are included, median values exhibit similar patterns.

Financial crises may increase not only the severity of a recession but also the likelihood of a recession. In order to examine this possibility, Table 5 counts the frequencies of recessions and financial downturns and their joint events, and computes various conditional probabilities. Severe credit contractions and severe stock price declines in the table are the same as credit crunches and stock price busts as defined above, respectively. The first row of Panel A of the table, for example, shows that the total number of credit contraction episodes in our sample is 115 and the total number of recession episodes is 32. For consistency with Table 4, the joint event is defined as a recession episode that starts at the same time or after the beginning of an ongoing credit contraction. The conditional probability, computed as the number of the joint events divided by the number of credit contractions, thus indicates there is about 19% chance of a recession for a given credit contraction episode. Similarly, the conditional probability of 39% in the third row refers to the probability of a recession given that the economy currently has a severe credit contraction. From these two rows, it is clear that

Table 5: Frequencies of Recessions and Financial Downturns

Asia

A: Credit Contraction	Recession	Frequency of			Conditional Probability
		Credit Contraction	Recession	Joint Event	
All	All	115	32	17	0.15
All	Severe	115	8	4	0.03
Severe	All	27	32	9	0.39
Severe	Severe	27	8	2	0.09
B: Stock Price Decline	**Recession**	**Frequency of**			**Conditional Probability**
		Stock Price Decline	**Recession**	**Joint Event**	
All	All	98	19	18	0.19
All	Severe	98	5	5	0.05
Severe	All	23	19	12	0.52
Severe	Severe	23	5	4	0.17

OECD

C: Credit Contraction	Recession	Frequency of			Conditional Probability
		Credit Contraction	Recession	Joint Event	
All	All	132	59	34	0.26
All	Severe	132	16	9	0.07
Severe	All	33	59	8	0.24
Severe	Severe	33	16	2	0.06
D: Stock Price Decline	**Recession**	**Frequency of**			**Conditional Probability**
		Stock Price Decline	**Recession**	**Joint Event**	
All	All	221	47	34	0.15
All	Severe	221	8	4	0.02
Severe	All	57	47	23	0.40
Severe	Severe	57	8	2	0.04

Note: Severe stock price declines are the same as stock price busts. Severe credit contractions are the same as credit crunches. Central Asian countries are included. The total number of recessions is not the same between Panels A and B and between Panels C and D because the number of observations with both GDP and stock price data is smaller than the number of observations with both GDP and domestic credit data.

the probability of a recession increases when domestic credit decreases more severely. A similar pattern emerges from the second and the fourth rows. The probability of a severe recession increases from 3% to 9% as domestic credit decreases more severely. Panel B of the table repeats the computation for stock price declines. The total number of (severe) recessions in Panel B is smaller than that of Panel A because the number of observations with both GDP and stock price data is smaller than the number of observations with both GDP and domestic credit data. Panel B of Table 5 shows that the probability of a (severe) recession increases when the stock price decreases more severely. The probability of a recession is 19% conditional on stock price decline, and jumps to 52% conditional on a stock market crash. Likewise, the probability of a severe recession is 5% conditional on stock price decline, and 17% conditional on a stock market crash.

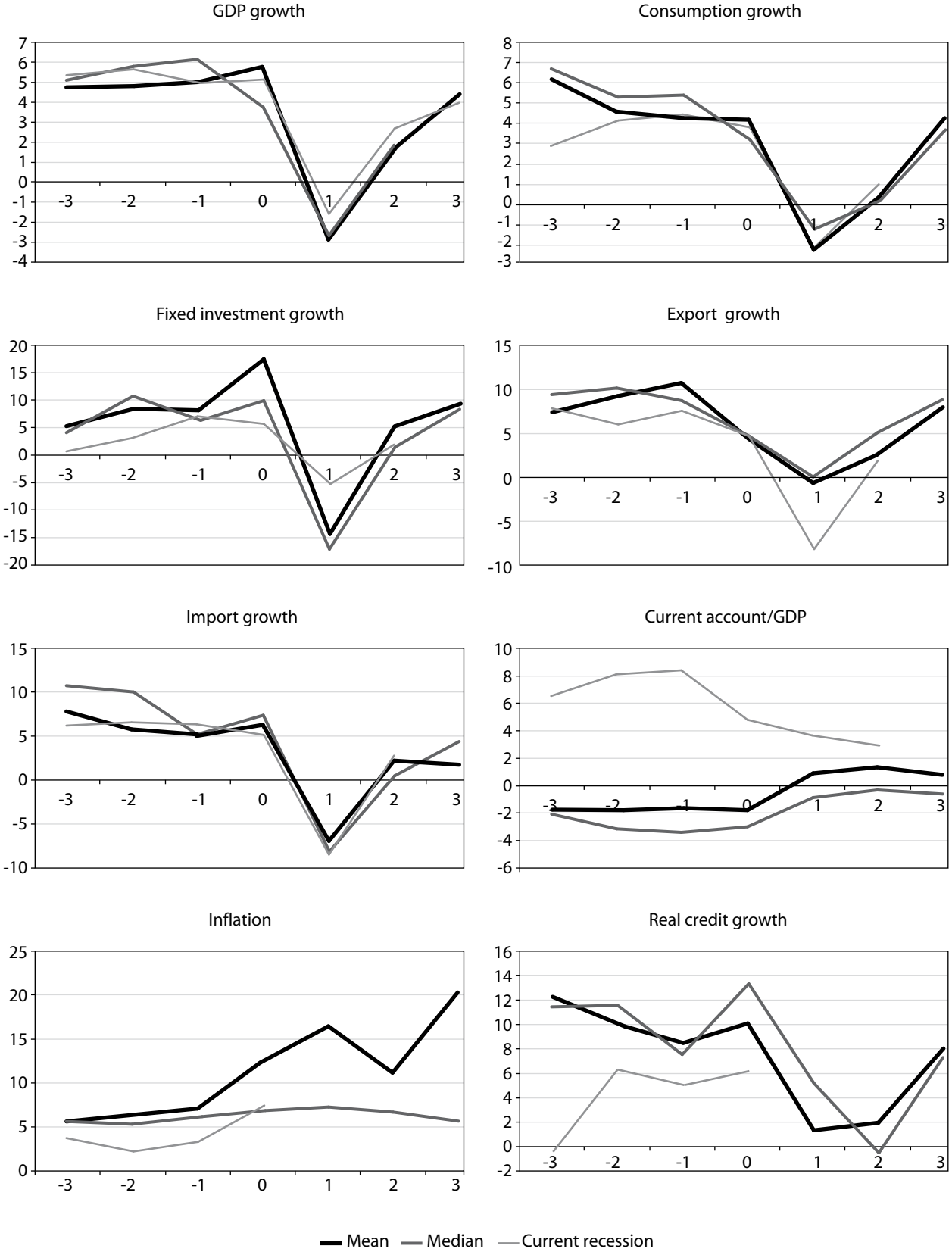
OECD countries exhibit somewhat different patterns. As Panels C and D of Table 5 show, the conditional probability of a recession in OECD countries, while increasing with the severity of the stock price decline, is almost independent of the severity of the credit contraction. This, combined with Table 4 results, suggests that credit contractions in OECD increase the severity of a recession but not particularly the likelihood of a recession.

E. Adjustments in Macroeconomic and Financial Variables

Our discussion thus far has focused mainly on movements of GDP during a recession. In this subsection, we examine how various macroeconomic and financial variables change around a recession episode. Figure 3 plots the growth rate of each variable for 3 years each before and after a peak. The peak year is denoted by 0. For variables that are available at quarterly frequencies (such as CPI, domestic credit, and the stock price), we use the year-on-year growth rate of the fourth quarter. In order to avoid influence of outlier values, Central Asian countries are excluded.

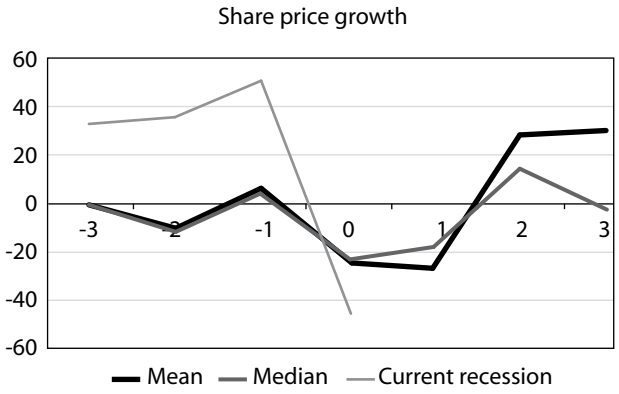
A prominent pattern in Figure 3 is that all components of GDP tend to move in the same direction around a recession. For each component, the growth rate becomes negative in period 1 and resumes positive in period 2. Also, consistent with common expectation, fixed investment is most volatile, with the amplitude exceeding that of all the other components of GDP. It appears that fixed investment is the first thing to cut when things go bad. The least volatile component is consumption. Previous studies on business cycles of developing economies have often stressed that, unlike in developed countries, consumption is more volatile than GDP in developing economies. Aguiar and Gopinath (2007), for example, find that “smoothness” of consumption is not observed among 13 developing economies including Korea, Malaysia, Philippines, and Thailand. In order to explain the lack of consumption smoothness, they develop a hypothesis on the nature of underlying productivity shocks. According to Figure 3, however, the amplitude of the fall is smaller for consumption than for GDP. This suggests that, at least during GDP recessions, consumption smoothing is present even among Asian economies.

Figure 3: Adjustments in Macroeconomic and Financial Variables around a Recession (percent)



continued.

Figure 3: *continued.*



Note: Period 0 refers to a peak.

Also shown in Figure 3 are adjustments in other macroeconomic variables and financial variables. As the figure illustrates, the current account/GDP ratio improves during a recession. On average, economies experience current account deficits prior to a peak and current account surpluses after a peak. This is consistent with the pattern that imports decrease more than exports. In the next graph, we see the inflation rate tends to increase during a recession. The combination of high inflation and low growth suggests that recessions in developing Asia are mainly driven by supply shocks rather than demand shocks. As Claessens et al. (2008) report, OECD countries exhibit the opposite pattern, with the inflation rate decreasing during a recession.

The last two graphs in Figure 3 show that recessions are likely to be associated with financial downturns. In particular, the growth rate of real credit falls substantially in period 1 and remains low even 3 years after the peak. This implies that adjustments in real credit are quite persistent. Stock prices seem to be forward-looking (at least on the way down), starting to fall even before the real economy peaks. Also, stock prices recover more quickly than domestic credit.

F. Comparing the Current Recession with Past Recessions

Using the patterns in Figure 3, we can make a rough conjecture on how the current recession in Asia will evolve in the coming years. To compare the current recession with past recessions, the most recent changes and forecasts (where available) for Asian economies are plotted under the name “current recession.” The economies considered are Hong Kong, China; Korea; Malaysia; Papua New Guinea; Philippines; Singapore; and Thailand, for which the Economist Intelligence Unit (EIU) forecasts negative GDP growth in 2009 (as of February). For these economies, period 0 refers to 2008. According to Figure 3, recent developments in GDP and its components have been similar to the average during past recessions. This implies that, at the onset of the current recession,

Asian economies were not particularly different from the norm. It is not clear, however, whether the peak-to-trough drop will also be typical. The EIU predicts that, while GDP and consumption will decrease by about the same percentages as before, the fall in fixed investment will be more modest and the fall in exports will be more severe. This prediction seems reasonable because fixed investment growth prior to the peak before this recession was not particularly high anyway, reducing the need for large adjustments in subsequent periods, and because export demand for Asian products will be hurt by the global recession.

The current account/GDP ratio is higher than usual because many Asian economies had current account surpluses in recent years. As a consequence of the sharper-than-usual decrease in exports, current accounts are expected to deteriorate rather than improve during the current recession. For the inflation rate and the financial variables, EIU forecasts are not available. Recent developments in these variables suggest that inflation may further pick up while domestic credit growth further decreases during the current recession. The sharper-than-usual adjustment in stock prices hints that the current recession will be a severe one. Above all, the sharper-than-usual fall in exports bodes ill for the many highly trade-dependent Asian economies.

IV. The Global Crises and Asia

A. The Impact of US/Global Crises on Asia

As the ongoing global financial crisis continues to take its toll on the global real economy, two related questions are foremost on the minds of Asia's policymakers, researchers, and commentators. First, how deep will the global recession bite and for how long will it last, particularly as it relates to the US economy (which aside from being the world's largest economy, is the country where the crisis originated). Second, how bad will Asian economies be affected? The early view that the US would have seen the worst of the downturn heading into the second half of 2009 now looks increasingly optimistic.[5] Instead, the prevailing view is one of continued bearishness at least until the last quarter of the year.[6]

Thus far, the current US recession has behaved very much like previous episodes of recession cum financial crisis, which undoubtedly is more severe than the case without banking and housing crises (see Reinhart and Rogoff 2008 and 2009; Claessens, Kose, and Terrones 2008; and Lall, Cardarelli, and Elekdag 2008). There are reasons to believe the current downturn will be even more protracted. The build-up in the US housing price

[5] For the earlier prediction see, among others, the US Federal Reserve Board (2008) and Reddy (2008).
[6] See the latest forecasting survey by the *Wall Street Journal* in Evans and Izzo (2009).

bubble was unparallelled (Reinhart and Rogoff 2008) and the resulting pull-back in residential investment has been equally sharp (Claessens et al. 2008). The bursting of the housing bubble has not only devastated traditional banking institutions, but more so the highly leveraged shadow banking institutions, with repercussions reaching every corner of the financial system. Amid these ongoing corrections, the stock market continues to slide downward. In essence, the US is experiencing a tri-factor of housing bust, stock market bust, and credit crunch simultaneously. With all major economies in crisis to differing degrees—and worse, all contracting at the same time—it will be a mammoth task for the US to simply export its way out of the slump. Based on Reinhart and Rogoff's (2009) historical comparison of crisis events, a typical peak-to-trough real GDP contraction is about 9.3% and lasts just under 2 years. This implies that if December 2007 was the start of recession, as indicated by the National Bureau of Economic Research, the US economy should stop contracting by end-2009. If, on the other hand, the collapse of Lehman Brothers in September 2008 is taken as the beginning of the current recession, the case for an early recovery in 2009 looks very unlikely. They also find real housing prices tend to fall 36% on average from peak to trough, lasting 5–6 years. Given the housing price peak of 2005, this implies current prices still have 8–10% to fall and will last well into 2011. In terms of equity prices, given that most stock prices peaked around mid-2007, any sustained rebound would be unlikely before 2010.

By and large, past US recessions were accompanied by recessions in other parts of the world, including emerging Asia (Table 6). Because emerging Asia's economies are more open, US recessions and Asian recessions seem to be more synchronized. During the past five US recessions since the early 1970s, US real GDP contracted, on average, 3.8% per year. GDP in other industrial countries fell by 2.0%; emerging Asia, 1.3%; Latin America, 1.7%; and emerging Europe, 3.6%. There were notable variations across recessions and regions. The 1972–1974 recession was unique because it was a common shock (oil price) that affected nearly all countries simultaneously. On the other hand, the 1982 recession, engineered to break the back of US inflation, was accompanied by continued positive growth in other industrial countries, while significantly higher US interest rates and concern over debt sustainability brought large output contractions to Latin America and emerging Asia,. The 1991 recession was more specific to the US due partly to the aftermath of the savings and loan crisis, where other industrial economies experienced only small declines in growth and many emerging economies continued to grow. And the 2001 US recession was special to emerging Asia as it affected them more widely than previous episodes.

The International Monetary Fund (IMF 2008) provides a comprehensive study that attempts to analyze the impact of US spillovers on Asia both descriptively and quantitatively. The study finds Asia's trade and financial links with the US remain strong, and more importantly, that financial links have become stronger over time. Asia's export exposure to the US has in fact risen, despite *prima facie* evidence of decoupling, if one accounts for the PRC's role as final assembler of goods eventually shipped to industrial countries. Financial integration with the US has also increased markedly—given the huge

rise in Asia's holdings of US securities bought from the large accumulation of international reserves since the Asian financial crisis. In addition, Asia's growth—particularly in the high-trade exposure economies of Malaysia; Singapore; and Taipei,China—were more correlated with the US growth cycle since 2000 than in the 1990s (see Kim, Lee, and Park 2009). The same can be said about financial correlations in the form of stock market movements. As IMF (2007) noted, the correlations tended to be larger in falling markets. Besides trade openness and export exposure to the US, other initial economic conditions before an economy enters recession matter as well. Emerging economies with high current account deficits, net government debt, depreciated currencies, and larger negative output gaps tend to be more affected by US recessions than others.

Table 6: US Recessions and Global Growth

	Recession*					Average
	1974–75	1980	1982	1991	2001	
Change in GDP growth (median for region)						
US	-6.1	-3.4	-4.5	-2.1	-2.9	-3.8
Other Industrial Countries	-5.4	-1.5	0.4	-1.3	-2.0	-2.0
Latin America	-3.2	-0.8	-3.9	1.1	-1.8	-1.7
Middle East and North Africa	1.2	-1.0	-3.3	0.8	-0.7	-0.6
Emerging Asia+	-3.5	-0.3	-1.5	-0.1	-1.1	-1.3
Sub-Saharan Africa	-0.5	—	1.0	—	0.6	0.2
Emerging Europe and CIS	…	…	…	-6.9	-0.3	-3.6
Ratio of Median Growth Changes to US Growth Changes (%)						
Other Industrial Countries	90	44	-10	61	69	51
Latin America	52	22	87	-53	61	34
Middle East and North Africa	-20	30	74	-38	24	14
Emerging Asia	57	10	33	4	37	28
Sub-Saharan Africa	9	-1	-23	0	-19	-7
Emerging Europe and CIS	…	…	…	335	11	173
Percent of Countries Experiencing Growth Declines						
Other Industrial Countries	91	64	45	73	91	73
Latin America	77	62	90	37	83	70
Middle East and North Africa	40	57	60	40	53	50
Emerging Asia	72	56	78	53	84	68
Sub-Saharan Africa	53	50	46	50	35	47
Emerging Europe and CIS	…	…	…	93	60	76

… means nonavailability of data.
CIS = Commonwealth of Independent States.
* Year during which most of the impact on US growth was recorded—may not be the same as the dating by the National Bureau of Economic Research.
\+ Emerging Asia refers to People's Republic of China; India; Hong Kong, China; Republic of Korea; Singapore; Taipei,China; Indonesia; Malaysia; Philippines; Thailand; and Viet Nam.
Source: Based on Table 4.4 in *World Economic Outlook* (IMF 2007).

In terms of the quantitative impact of US recessions, Table 7 summarizes the results of different methodologies used in the study, which range from a decline of 0.2% to 0.6% in Asia for every percentage point fall in US real GDP. Within Asia, different economies are affected differently with the more open ones being more vulnerable. For example, results from the vector autoregression model show the impact ranges from a decline of 0.0% to 0.9%. Among them, the high-trade exposure economies are most susceptible:

Singapore declined by 0.9; Taipei,China 0.9; Hong Kong, China 0.8; and Malaysia 0.7.[7] Interestingly, though the results are not shown here, during 1996–2007, the impact of the US recession on Asian economies was larger than during the previous 1980–1995 period, reinforcing the importance of increased indirect trade exposure and financial linkages to the US. Finally, the study also examines several past US recessions (1980, 1981–1982, 1990–1991, and 2001) and finds that the 2001 recession was most severe. The burst of the information technology bubble in 2001 badly impeded electronics, a key export driver of Asian economies. As expected, economies that were most dependent on electronics were most severely affected: Malaysia; Singapore; and Taipei,China. Moreover, the 2001 US recession occured when many economies were still recuperating and undergoing reforms in the aftermath of the Asian financial crisis.

Table 7: Summary Results: Impact of a One Percentage Point US Slowdown (in percentage points)

	Vector Autoregression	Cross-Country Regressions	2001 Recession[1]
Japan	0.2	0.3	0.7
Australia	0.5	0.7	0.4
New Zealand	0.3	0.9	0.0
China, People's Republic Rep. of	0.0	0.1	0.2
Hong Kong, China	0.8	1.0	1.5
India	0.0	-0.2	-0.1
Indonesia	0.4	0.2	-0.3
Korea, Rep. of	0.1	0.1	0.5
Malaysia	0.7	0.5	1.8
Philippines	0.4	0.6	0.6
Singapore	0.9	1.1	4.1
Taipei,China	0.9	1.2	2.9
Thailand	0.5	1.0	0.5
Asia*	0.2	0.3	0.6
Emerging Asia*	0.2	0.2	0.5
Emerging Asia* (ex. PRC and India)	0.5	0.5	1.1

[1] Rescaled to the impact of a one percentage point US slowdown. The actual decline in output gap of the US in 2001 was 1.90. The size is measured as the average change in the output gap during the recession relative to the preceding four quarters. The potential output is derived from a Hodrick-Prescott filter.

* Weighted average using nominal GDP at market exchange rates.

Source: Based on IMF (2008, Table 2.11).

Based on the IMF forecast of a US real GDP decline of 1.6% for 2009, the overall estimates from Table 7 show Asia could contract by 0.3% to 1.0%. Individually, taking the extreme estimates of the 2001 US recession/technology burst, Singapore could be the worst hit, down by 6.6%; Taipei,China, 4.6%; Malaysia, 2.9%; and Hong Kong, China, 2.4%. In contrast, the official forecasts are more hopeful: Singapore (–2% to –5%); Taipei,China (–3%); and Hong Kong, China (–3%).

[7] This time around, the EIU and Consensus Forecasts have predicted all the newly industrialized economies (Hong Kong,China; Korea; Singapore; and Taipei,China) including Malaysia and Thailand would record negative growth for 2009.

Barro and Ursua's (2008) study on how Asia is affected by a US/global recession is also useful as it focuses on much longer historical time series; since 1870 including the Great Depression. From Table 8, of the five occasions where the US real GDP per capita contracted by more than a cumulative 10% from peak to trough, the 1929–1933 Great Depression stands out. Then, US real GDP per capita contracted 29%; Indonesia

Table 8: US and Asian Real GDP Per Capita Disasters

Country	Peak	Trough	Duration	GDP Decline (%)
United States	1906	1908	2	10.5
	1913	1914	1	9.5
	1918	1921	3	11.8
	1929	1933	4	29.0
	1944	1947	3	16.5
Average			2.6	15.5
Indonesia	1930	1933	3	11.4
	1940	1945	5	54.5
	1997	1999	2	15.8
Malaysia	1902	1904	2	10.0
	1929	1935	6	19.3
	1936	1937	1	11.7
	1939	1941	2	23.5
	1942	1947	5	36.1
Philippines	1903	1904	1	15.8
	1913	1915	2	11.6
	1929	1935	6	13.4
	1939	1946	7	57.2
	1982	1985	3	18.7
Singapore	1902	1904	2	21.4
	1910	1913	3	33.7
	1915	1916	1	17.4
	1917	1920	3	23.5
	1925	1927	2	38.9
	1929	1933	4	41.2
	1937	1938	1	15.1
	1950	1952	2	34.5
	1956	1957	1	11.3
Korea, Rep. of	1918	1919	1	11.1
	1938	1939	1	10.4
	1940	1945	5	48.0
	1949	1951	2	15.1
Taipei,China	1903	1905	2	21.4
	1910	1911	1	11.4
	1936	1945	9	66.2
Average (Asia)			2.9	24.8

Note: The shaded rows for Asian economies refer closely to the corresponding US real GDP per capita disasters. Declines in real GDP per capita of 10% or greater are cumulative fractions from peak year to trough year. Barro and Ursua (2008) also includes stock price, bill rates of returns, and inflation rate declines, but they are not shown here. Trough years in bold indicate a country is at war.

Source: Based on Barro and Ursua (2008, Table A2).

11.4%; Malaysia, 19.3%; Philippines, 13.4%; and Singapore, 41.2%. The biggest declines, however, were recorded during World War II, in the vicinity of 50% for most Asian economies, and lasted between 5 to 9 years, though not strictly triggered by the US recession.

B. Synchronization of Global Crises and Asian Recessions

In this subsection, we calculate various conditional probabilities to see how US financial crises (and global recessions) relate to Asian financial crises and recessions. The methodology is the same as in Table 5. We count the frequencies of foreign crises, Asian crises, and their joint events, and compute the probability of an Asian crisis conditional on a US crisis. Table 9, Panel A, last column, shows there is a 40% chance that Asia also experiences a credit contraction for a given US credit contraction. However, there is only an 8% chance that the Asian credit contraction will be a severe one. In the case of stock price declines (Panel B), there is a larger 51% chance that Asia also experiences a stock price decline when the US stock price drops. Similarly, the chances of that coinciding with a severe Asian stock price decline are also higher at 12% when compared with a credit contraction. This highlights the greater regularity of stock price declines (or volatility of stock price movements) in contrast to credit contractions. What is also salient is that in the severe cases of US credit contractions and severe US stock price declines, the probabilities of Asian credit contractions and stock price declines are even greater, at 63% and 88% respectively. This means that when a severe credit contraction (or severe stock price decline) happens in the US, the chances of an Asian credit contraction (or stock price decline) also increases.

Table 9: Frequencies of US Credit Contractions/Stock Price Declines and Asian Credit Contractions/Stock Price Declines

A: US Credit Contractions	Asian Credit Contractions	Frequency of			Conditional Probability
		US Credit Contractions	Asian Credit Contractions	Joint Event	
All	All	75	119	30	0.40
All	Severe	75	28	6	0.08
Severe	All	35	119	22	0.63
Severe	Severe	35	28	4	0.11
B: US Stock Price Declines	**Asian Stock Price Declines**	**Frequency of**			**Conditional Probability**
		US Stock Price Declines	**Asian Stock Price Declines**	**Joint Event**	
All	All	94	98	48	0.51
All	Severe	94	22	11	0.12
Severe	All	42	98	37	0.88
Severe	Severe	42	22	9	0.21

Note: Severe US credit contractions refer to US credit contractions with the amplitude greater than the median. Severe US stock price declines refer to US stock price declines with the amplitude greater than the median. Severe Asian credit contractions and severe Asian stock price declines are the same as credit crunches and stock price busts defined above, respectively. Central Asian countries are included.

Another interesting aspect to examine is the relationships between US credit contractions and stock price declines with Asian recessions. These results are presented in Table 10. What stands out is that for a given US credit contraction or US stock price decline, the chances of Asia being in recession are much less than Asia in *credit contraction* or having a *stock price decline*. Simply put, this means not all US financial downturns lead to an Asian recession. Still, if it is a US credit contraction, the chances of an Asian recession are higher (at 19%) than if it is a US stock price decline (13%). Although stock price declines happen more often than credit contractions, their impact on Asian economic activity is not as detrimental. Likewise as in Table 9, the severity of US financial downturns increases the chances of Asian recession. An even more interesting relationship to examine is between OECD (including US) recessions and Asian recessions. Table 11 shows a 14% chance of an Asian recession happens together with an OECD recession. In case of a severe OECD/US recession, the chances of an Asian recession increases further to 24%.[8]

Table 10: Frequencies of US Credit Contractions/Stock Price Declines and Asian Recessions

A: US Credit Contractions	Asian Recessions	Frequency of			Conditional Probability
		US Credit Contractions	Asian Recessions	Joint Event	
All	All	85	51	16	0.19
All	Severe	85	13	3	0.04
Severe	All	44	51	14	0.32
Severe	Severe	44	13	3	0.07
B: US Stock Price Declines	**Asian Recessions**	**Frequency of**			**Conditional Probability**
		US Stock Price Declines	**Asian Recessions**	**Joint Event**	
All	All	212	51	28	0.13
All	Severe	212	13	8	0.04
Severe	All	113	51	15	0.13
Severe	Severe	113	13	3	0.03

Note: Severe US credit contractions refer to US credit contractions with the amplitude greater than the median. Severe US stock price declines refer to US stock price declines with the amplitude greater than the median. Severe Asian credit contractions and severe Asian stock price declines are the same as credit crunches and stock price busts defined above, respectively. Severe recessions are also the same as above. Central Asian countries are included.

Table 11: Frequencies of OECD Recessions and Asian Recessions

OECD Recessions	Asian Recessions	Frequency of			Conditional Probability
		OECD Recessions	Asian Recessions	Joint Event	
All	All	389	81	55	0.14
All	Severe	389	30	24	0.06
Severe	All	89	81	21	0.24
Severe	Severe	89	30	9	0.10

Note: Severe Asian recessions are defined as before. For OECD, recessions are defined as the proportion of any one OECD country in recession in a given year—the same definition as in Figure 2. Severe recessions are those events where the proportion of OECD countries in recession is above 30%.

[8] A severe OECD recession is where the proportion of OECD countries in recession is above 30% (see Figure 2). Severe Asian recessions are defined as the usual top quartile events.

IV. Concluding Remarks

Our analysis of historical crisis episodes in Asia shows that while there is substantial diversity, on average recessions and financial downturns are more frequent, longer lasting, and more severe in Asian economies than in OECD countries. We also find that the likelihood and severity of a recession tends to increase when it is associated with financial crises, such as credit crunches and stock market crashes. The probability of an Asian recession is 19% conditional on stock price decline, and jumps to 52% conditional on a stock market crash.

Our results also support the strong links between Asian economies and the global economy. Severe financial downturns or recessions in advanced economies are often associated with financial crises or recessions in Asia. Conditional on a stock market crash in the US, the probability of an Asian credit contraction is 63% and stock price decline is 88%. The probability of an Asian recession is 14% conditional on an OECD/US recession, and 24% on a severe OECD/US recession.

The financial turmoil that stemmed from the US subprime mortgage crisis in 2007 has blown up into a global economic crisis. Major industrialized economies have already entered recessions and despite policy measures taken, the probability of a deeper and more prolonged global recession is high. Emerging Asian economies have also been hit hard due to strong links between Asian economies and the global economy through trade and financial channels. A rapid reversal in capital flows due to risk repricing and deleveraging has led to a squeeze of external funding conditions and a collapse of asset prices. Asian export growth is slowing sharply as demand from major economies shrinks.

Given the severity of the current global crisis and financial downturns, the risk that many Asian economies will experience a deeper recession is high. The stylized facts of the movements of macroeconomic and financial variables from the historical recession episodes suggest that sharper declines in stock prices and export demand are associated with severe recession. However, considering that the current recession is unprecedented in many aspects, this episode may not entirely follow the stylized pattern previous recessions have taken.

In addition, the actual impact of the global crisis on Asian economies depends on the policies adopted in response to the crisis. Policymakers across the region have taken immediate actions to contain the spillover effects of global financial turmoil on domestic financial systems. However, the wide spread of the crisis on to the real sector has called for policy reactions to hold down economic deterioration. Asian countries have adopted a mix of policy tools including monetary, financial, fiscal, exchange rate, and structural. But it remains a question of what types of policies would be more effective in reducing the length and severity of the recession. For example, the current public debate focuses on calling for more active fiscal responses, considering that monetary policy may have

less traction when financial conditions worsen. However, it is not clear whether and to what extent countercyclical fiscal policies can help limit the impact of the global crisis. This is where future research on the role of national policies in dealing with financial and macroeconomic crises in Asia will be useful.

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About the Paper

Kiseok Hong, Jong-Wha Lee, and Hsiao Chink Tang find that based on historical crisis episodes in 21 developing Asian economies from 1961 to 2007, recessions and financial downturns are more frequent, longer lasting, and more severe in Asia than in the industralized countries. Also, severe financial downturns or recessions in the global economy are often coupled with financial crises or recessions in Asia. The severity of the current global financial crisis and recession means Asian economies are likely to experience a severe recession in 2009.

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